DOCUMENT RESUME

ED 321 687 HE 023 705

AUTHOR Haberaecker, Heather J.
TITLE Developing Interinstitutional Comparisons of Nonacademic Units for Use in the Review Process. AIR 1990 Annual Forum Paper.
PUB DATE 16 May 90
NOTE 36p.; Paper presented at the Annual Forum of the Association for Institutional Research (30th, Louisville, KY, May 13-16, 1990).
PUB TYPE Guides - Non-Classroom Use (055) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS College Programs; Colleges; Comparative Analysis; Higher Education; Information Sources; Institutional Characteristics; Literature Reviews; Models; *Organizational Effectiveness; *Program Effectiveness; *Program Evaluation; *Units of Study; Universities
IDENTIFIERS *Air Forum; Northeastern Illinois University; *Program Review

ABSTRACT

A framework is presented for developing and utilizing interinstitutional comparisons of nonacademic units in the program review process using Northeastern Illinois University of Chicago, Illinois, as an example. The framework is drawn from a review of the literature on organizational effectiveness and the various dimensions of management indicators. Issues are discussed regarding how to establish appropriate comparative institutions, determine the appropriate level and unit of analysis, and identify available sources of information. Additionally, various means of interpreting the information derived from the process are explored as well as some of the pitfalls to avoid in the evaluation process. Contains 21 references. (Author/GLR)

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Developing Interinstitutional Comparisons of Nonacademic Units for Use in the Review Process

Presented by:

Heather J. Haberaecker
Assistant Vice President for Budget and Finance
Northeastern Illinois University
5500 N. St. Louis
Chicago, IL 60625

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1990 AIR Forum

May 16, 1990

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HE023 705

for Management Research, Policy Analysis, and Planning

This paper was presented at the Thirtieth Annual Forum of the Association for Institutional Research held at The Galt House, Louisville, Kentucky, May 13-16, 1990. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

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Abstract

The extent to which the productivity or efficiency of units can or should be evaluated in the context of a nonacademic program review has been the subject of some disagreement and debate. This paper presents a framework for developing and utilizing interinstitutional comparisons of nonacademic units in the program review process. Issues regarding how to establish appropriate comparative institutions, determine the appropriate level and unit of analysis, and identify available sources of information will be discussed. Various means of interpreting the information derived from the process will be explored as well as some of the pitfalls to avoid in the evaluation process.

Introduction

In the early years of program review, attention was focused primarily on the review of academic programs. Program review results were seen as a necessary vehicle for more informed decision-making and as a means of assessing the appropriateness, adequacy, effectiveness and efficiency of academic programs. By 1982, a national study showed that over 82 percent of the institutions surveyed had some type of formal evaluation process in place for academic programs (Barak, 1982).

More recently, faculty, administrators, and, in some cases, state higher education officials have begun to focus on the magnitude of institutions' investment in nonacademic programs designed to support instructional, research and public service programs. In some cases, this investment can equal 40 percent of an institutions unrestricted fund budget. This substantial investment combined with either the actual or perceived increase in the size of administrative operations has led to an increasing number of questions being raised about the effectiveness and efficiency of these nonacademic units.

While the number of questions being raised about the effectiveness and efficiency of nonacademic units may be increasing, it does not appear that the number of institutions adopting a formal and systematic process for the review of nonacademic units has increased substantially in response to these questions. For example, a review of the literature shows that the University of Illinois (Wilson, 1987) and the University of Maryland - College Park [UMCP] (Brown, 1989) are among only a handful of institutions

which have reported the development of ongoing processes for the review of nonacademic units.

If one assumes that most higher education institutions face resource constraints at some level and that nonacademic units can account for up to 40 percent of an institution's budget from unrestricted funds, then why are not more nonacademic program review processes being developed? Wilson (1987) provides at least some explanation, noting the difficulties involved in designing unique evaluation plans for each separate unit.

However, are such reasons merely a smoke screen for more fundamental problems causing higher education administrators to shy away from the development of nonacademic program review processes? For example, in spite of the stated need to develop unique evaluation plans for each nonacademic unit, both the University of Illinois and the University of Maryland - College Park have developed a core set of questions designed to evaluate the operation of a unit. User surveys serve as one means of addressing the effectiveness dimension of units under review. Regardless of whether academic or nonacademic units are being reviewed, processes can be designed which meet the three characteristics of an effective program review suggested by Ewell (1983), that is, that they be systematic, regular, and comprehensive. Therefore, many of the concerns being raised about the difficulties involved in designing nonacademic program review processes can be addressed.

The one dimension of effectiveness which is clearly missing from the frameworks developed to date for the review of nonacademic units is an evaluation of the efficiency or productivity of the unit. Brown (1989) notes this omission as one of the main shortcomings of the UMCP model. Others (Wilson, 1987) discuss the difficulty of collecting comparable data in this area. It is this researcher's contention that until such time that explicit measures of efficiency or productivity of nonacademic units are built into the nonacademic program review process and the methodologies behind such measures receive as widespread acceptance as unit cost and faculty load data for academic programs, few institutions will be willing to expend the resources required to mount an ongoing process for the review of nonacademic units.

One means of developing explicit measures of efficiency or productivity of nonacademic units is through the use of comparative data. This paper presents a framework for developing and utilizing interinstitutional comparisons for nonacademic units. The framework is drawn from a review of the literature on organizational effectiveness and the various dimensions of management indicators.

Literature Review

A review of the literature shows that the subject of productivity or efficiency is clearly detailed in some models of organizational effectiveness while totally missing in others. It appears that the subject is most consistently addressed in the systems model of

organizational effectiveness whereby organizations are viewed as open systems interacting with the environment. Salancik and Pfeffer (1974) discuss organizations' dependency on a cycle of resource acquisition, throughput and output for their very survival. Yuchtman and Seashore (1967) also found resource acquisition to be so fundamental that they have suggested it as a measure of organizational effectiveness.

The resource dependency dimension of organizational effectiveness was noted early on in the definition of organization effectiveness offered by Georgopoulos and Tannenbaum (1957). They defined organizational effectiveness as "the extent to which an organization as a social system, given certain resources and means, fulfills its objectives without incapacitating its means and resources and without placing undue strain upon its members" (Georgopoulos and Tannenbaum, 1957:535). Their concept of organizational effectiveness included 1) organizational productivity, 2) organizational flexibility to adapt to both internally and externally induced organizational change and 3) the absence of interorganizational tension or control as among the salient criteria.

Katz and Kahn (1978) discuss effectiveness in terms of efficiency and political effectiveness. While some authors appear to use the terms efficiency and productivity interchangeably, others are emphatic in noting that the concepts are not equivalent. Lindsay (1982), for example, defines efficiency in terms of the extent to which the level of input is optimal relative to the level of output. Productivity, on the other hand, is defined

as the ratio of output to input measured in physical or monetary terms as adjusted to be independent of any change in price (Lindsay, 1982: 179).

While the subject of efficiency or productivity is frequently cited as one dimension of effectiveness in the systems model, in the goal attainment model of organizational effectiveness, efficiency and effectiveness are often viewed as independent concepts. Advocates of the goal attainment model generally agree that effectiveness refers to goal attainment while efficiency refers to the costs incurred in goal attainment. The measurement of effectiveness in this model is viewed independent of the level of resources committed to the organization. In criticizing the model, Hannan and Freeman (1977) raise the issue of whether an analysis of goal attainment without considering the level of resources provided has much meaning or whether any evaluation of organizational performance has at least implicit cost comparisons built into the framework. Given the relationship between resources and performance, they conclude that when resources are scarce, performance evaluations that do not take cost into consideration are not very useful (Hannan and Freeman, 1977:110).

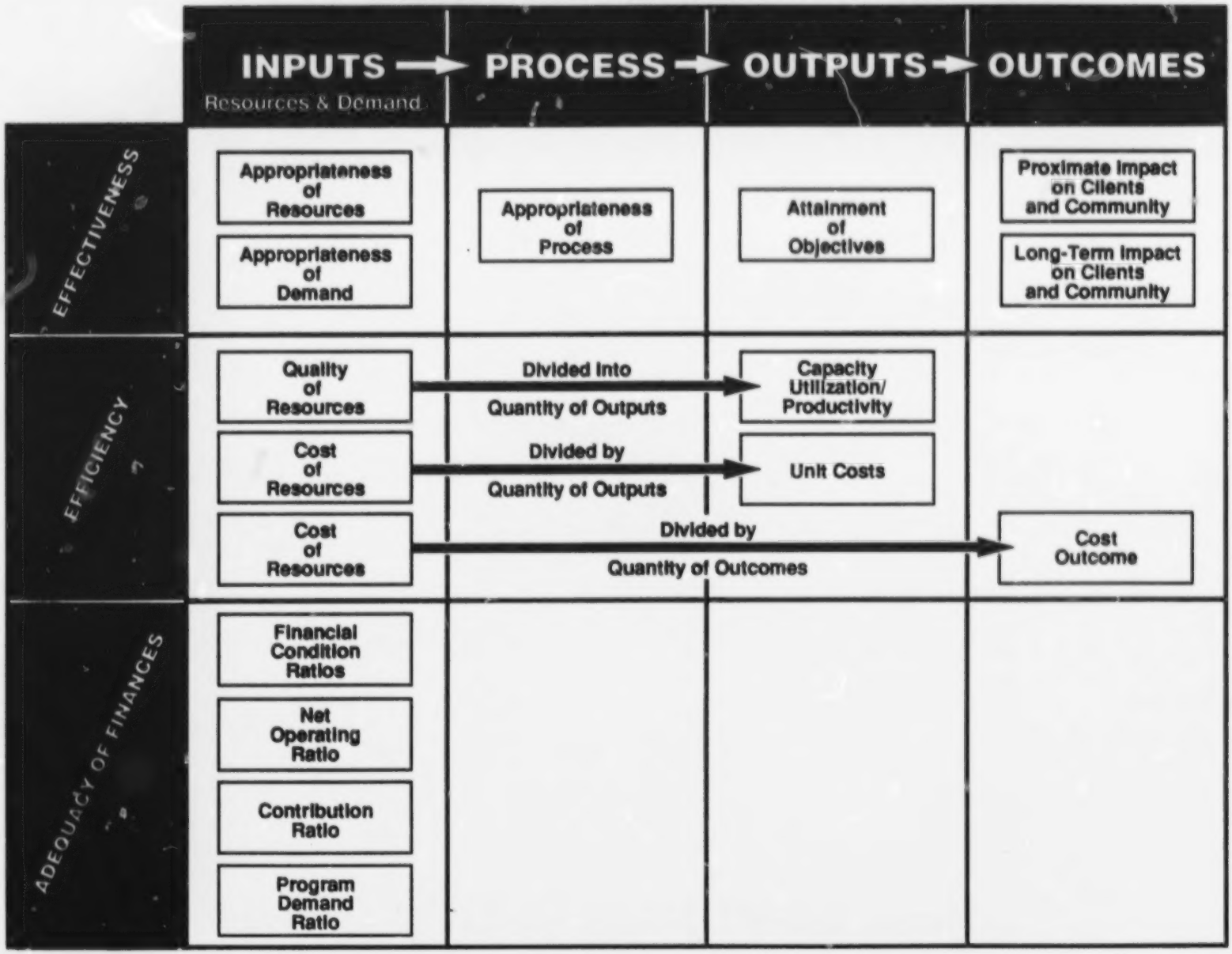
In summary, treatment of the issues of resource dependency and efficiency are key distinctions between the goals attainment model and the systems model of organizational effectiveness. Literature in the field of management appears to be developing as a means of bridging the gap between resource dependency/efficiency and goals attainment in the evaluation of organizations. Elkin and Molitor (1985) advocate the use of management

indicators as a means of monitoring whether resources are utilized in an effective, efficient and appropriate manner towards meeting the goals of the organization. Among the salient features which define a management indicator are the fact that: 1) it addresses one of a limited number of areas designated by top management as critical to the continuing successful functioning of the organization, 2) it is made up of a ratio of operating statistics, 3) there exists a criterion or standard against which the actual indicator value can be compared and 4) it is analyzed as a trend over time, preferably over four or more time periods (Elkin and Molitor, 1985:14).

The conceptual framework developed by Elkin and Molitor for selecting management indicators contains dimensions of effectiveness, efficiency and adequacy of finances (See Figure 1). Of particular relevance to this discussion is their definition of the efficiency dimension. In describing the relationship between inputs and outputs, Elkin and Molitor note that a measure of efficiency is relative; it is only useful when compared to a standard or another measure of efficiency which provides a base line of experience (1985:19). They also note that an increase in efficiency can occur either as a result of fewer resource inputs being required to produce a given amount of output or as a result of a greater amount of output being produced for a given amount of resources. This distinction will become more relevant when applied to the interpretation of results from interinstitutional comparisons.

FIGURE 1

CONCEPTUAL FRAMEWORK FOR SELECTING MANAGEMENT INDICATORS IN NONPROFIT ORGANIZATIONS



Two dimensions of efficiency highlighted in the framework are capacity utilization/productivity and unit costs. Capacity utilization is an assessment of the efficient use of available resources and is dependent upon a known, finite capacity (Elkin and Molitor, 1985:19). Given this limitation, the capacity utilization dimension has applicability to only a limited number of nonacademic units such as a counseling center whereby the number of available counseling sessions per counselor can be multiplied by the total number of counselors and compared to counseling sessions utilized. On the other hand, staff productivity, an efficiency measure of an organization's personnel, can have general applicability to the evaluation of nonacademic units particularly when measured on a comparative basis.

The other efficiency dimension, unit costs, describes the ratio of outputs to inputs as measured in financial terms. Again, when measured in relative terms, unit costs can have general applicability to the evaluation of nonacademic units.

A review of the literature suggests that it would be appropriate to evaluate the relative efficiency of a nonacademic unit as one dimension of an overall evaluation of the effectiveness of the unit. Various means of measuring the relative efficiency of units, including the use of management indicators, are addressed. In the next section, the framework selected for use on the researcher's home campus for developing and utilizing comparative data in the evaluation of nonacademic units is presented.

Framework for Comparison

In this section, the framework developed for evaluating the relative efficiency of nonacademic units at Northeastern Illinois University will be discussed. Northeastern Illinois University is a comprehensive public university of 10000 students in Chicago which was founded as a city-owned teachers college in 1961. It should be noted that the relative efficiency measures developed were only one component of a more comprehensive nonacademic program review process instituted in 1982. Like the University of Illinois, much of the impetus for developing a nonacademic program review process at Northeastern came from a request from the Illinois Board of Higher Education to provide them with program review results on each nonacademic and administrative unit every five years.

The various means of determining comparative institutions for this purpose will be discussed first. The methodology employed in developing comparable nonacademic units will be addressed next along with the role of unit managers in identifying such units. Particular attention will be given to the unit of analyses and level of analysis used in the comparisons as these issues have proven to be critical to the acceptance of the model by various administrators and unit managers on the researcher's home campus. The utility of various sources of information available for comparison will also be discussed. Finally, some pitfalls to avoid in developing and interpreting comparative data will be suggested.

Comparative Institutions. Over the years, various statistical techniques such as cluster analysis, factor analysis and discriminant analysis and other less statistically-oriented means have been employed to develop peer institutions for comparative purposes (Brinkman and Teeter, 1987). While differences exist in the methodologies used, among the types of variables usually considered in developing peer groups are the following: enrollment, number of degrees earned, programs offered including level, professional staffing and average salaries (Teeter and Christal, 1985).

Given that the emphasis of this comparative effort is on nonacademic and administrative units, it is particularly important that enrollment level be a key variable in whatever means is used for selecting a peer group of institutions. The need for this emphasis comes from the results of research on economies of scale in higher education which shows that the administrative area typically experiences the greatest reduction in unit cost as enrollment increases (Brinkman and Leslie, 1985).

The methodology used in this study to select peer institutions for evaluating the relative efficiency of nonacademic units was developed by the Illinois Board of Higher Education to aid it in the policy-making process (Illinois Board of Higher Education, 1985). Since this methodology already had credibility with the body to which the review results were to be submitted as well as with many institutional representatives, it was a logical choice.

For Northeastern Illinois University, 93 peer institutions from across the country were selected. Of this number, one other Illinois public university was reported in the same peer group. In addition, three other Illinois public universities were reported in the peer group most similar to Northeastern's peer group. Since two of these three institutions were governed by the same governing board as Northeastern, it was decided to include them as comparative institutions. The remaining institution from this peer group was invited to participate in the study but declined. A decision was made early on to include only Illinois public universities in the initial study in order to avoid opportunities for error in interpreting data from institutions unfamiliar to the author. Therefore, a total of four institutions, including Northeastern, provided comparative data on nonacademic units.

Comparative Nonacademic Units. The internal budget books of the other three institutions were first reviewed to determine the extent to which units similar to those at Northeastern existed at the other campuses. Among the types of information provided in the budget books for the current year were title and account number of the unit, title and position number of each position budgeted, the number of months budgeted for each position, the total amount budgeted for each position, and the total amount budgeted for non-personnel costs by line item.

A unit by unit comparison was made between departments at Northeastern and those at the other institutions to determine differences in organizational structure between

the institutions. A review of position titles proved particularly helpful in identifying where functions housed in one department at Northeastern are housed in a different department at the other institutions. For example, such a review showed that the student employment function is housed in the Placement Office at Northeastern and in the Financial Aid Office at all of the other institutions. In cases where either the unit or position title provided no indication of the function of the unit or position, the budget director of the other institution was consulted in order to make the determination of where the unit or position fit organizationally.

Departments and positions in the other institutions were then rearranged, as necessary to match Northeastern's organizational structure as closely as possible. In some cases, this meant that two units from another institution were combined in order to be comparable to one unit at Northeastern. In other cases, a unit at another institution was split into two or more pieces in order to equal the organizational structure in place at Northeastern. In those departments in which positions were moved to other departments to make them comparable, no attempt was made to move an equivalent amount of non-personnel dollars from one department to another. To do so would have required better information on the relationship between positions and non-personnel expenditure levels than is currently available.

This effort resulted in a crosswalk being prepared by vice presidential area which shows which departments and, in some cases, positions at the other institutions are

comparable to those at Northeastern. An example of what part of a crosswalk looks like is shown in Table 1. At the end of the crosswalk for each vice presidential area, a list of non-comparable units is shown. Examples of such units are central supply and duplicating services operations. At several other institutions the units are directly supported by state funds whereas at Northeastern these operations are funded on a cost recovery basis. Any non-comparable units were excluded from subsequent analysis.

These crosswalks were then shared with the budget directors at the other institutions and with the vice presidents at Northeastern. The vice presidents were also encouraged to share this information with their unit managers so that any misclassifications could be corrected. All individuals were asked to review the crosswalks and comment on any omissions or misclassifications. The crosswalks were subsequently adjusted based on comments received. Based on the adjusted crosswalks, tables were prepared for each vice presidential area which show budgeted staffing levels and expenditures levels for each comparable unit for FY1987 and FY1988. Tables 2 and 3 show examples of what these tables look like. It should be noted that the staffing level data show the total headcount for the unit, excluding temporary positions and student aides, regardless of the number of months for which a position has been budgeted. For departments where positions are being phased out, the headcount will be slightly overstated but this fact is reflected in lower costs in the budgeted expenditure data and will be self-correcting in future years' analyses of staffing levels.

Table 1
CROSSWALK BETWEEN COMPARABLE DEPARTMENTS
AT PEER INSTITUTIONS
FY1988

PRESIDENT'S AREA	Department Name and Number		
Institution A	Institution B	Institution C	Institution D
President's Office (10100)	Reimbursable Account (11201) Office of the President (11200) except for A461 and H841	President's Office (0255) Reserve-President's Area (0263)	President's Office (11000)
Affirmative Action (10101)	Office of the President (11200) A461 & H841 only	Affirmative Action Program (0259)	Affirmative Action (50100)

ADMINISTRATIVE AFFAIRS	Department Name and Number		
Institution A	Institution B	Institution C	Institution D
Administrative Affairs (20110) and (20990)	V.P. for Administrative Affairs (13300)	Admin. & Finance V.P. (0271) Reserve-Admin. & Finance (0264)	V.P. for Business Affairs (12000)
Business Services (21120)	Business Operations (13209)	Treasurer's Office (0241)	Business Services (51000) except for A003
Controller (21122)	Controller (13212) except J316, H268, H723, H875 Property Control (13219)	Accounting Office (0242) All except P970, P858, P859, P257, P174 Property Control Operations (0245)	Accounting Office (51200) Business Services (51000) A003 only

Table 2
COMPARISON OF BUDGETED EXPENDITURES IN NON-ACADEMIC
DEPARTMENTS AT PEER INSTITUTIONS BASED ON
FY1987 & FY1988 BUDGETS

	Institution A		Institution B		Institution C		Institution D	
Vice Presidential Area	1987	1988	1987	1988	1987	1988	1987	1988
President's Area								
President's Office								
Personal Services	204212.00	202072.00	246888.00	239090.00	157327.00	168360.00	160835.00	209627.00
Support Costs	47163.00	45939.00	58198.00	55270.00	27215.00	20345.00	23748.00	21700.00
Total	251375.00	248011.00	305086.00	294360.00	184542.00	188705.00	184583.00	231327.00
Affirmative Action								
Personal Services	107993.00	104724.00	42784.00	56748.00	40381.00	45020.00	32271.00	32562.00
Support Costs	4950.00	4950.00	.00	.00	5860.00	4356.00	4823.00	4282.00
Total	112943.00	109674.00	42748.00	56748.00	46241.00	49376.00	37094.00	36844.00
Grand Total - President's Area								
Personal Services	312205.00	306796.00	289636.00	295838.00	197708.00	213380.00	193106.00	242189.00
Support Costs	52113.00	50889.00	58198.00	55270.00	33075.00	24701.00	28571.00	25982.00
Total	364318.00	357685.00	347834.00	351108.00	230783.00	238081.00	221677.00	268171.00
Academic Affairs								
Provost's Office								
Personal Services	294972.00	295044.00	285919.00	333421.00	244001.00	240927.00	322989.00	344955.00
Support Costs	75720.00	75720.00	74972.00	71536.00	65366.00	50066.00	24061.00	18018.00
Total	370692.00	370764.00	360891.00	404957.00	309367.00	290993.00	347050.00	362973.00
Graduate College								
Personal Services	240024.00	21884.00	113382.00	115297.00	87717.00	92683.00	196751.00	180783.00
Support Costs	12419.00	17025.00	10620.00	10032.00	15600.00	15132.00	38581.00	36045.00
Total	252443.00	235869.00	124002.00	125329.00	103317.00	107815.00	235332.00	216828.00

Table 3
COMPARISON OF STAFFING LEVELS (HEADCOUNT) IN NON-ACADEMIC DEPARTMENTS AT PEER INSTITUTIONS BASED ON FY1987 & FY1988 BUDGETS

Vice Presidential Area	Institution A 1987	Institution A 1988	Institution B 1987	Institution B 1988	Institution C 1987	Institution C 1988	Institution D 1987	Institution D 1988
President's Area								
President's Office								
A & P	2.00	2.00	3.00	3.00	2.00	3.00	1.50	1.50
Civil Service	3.40	4.40	4.00	4.00	2.00	2.00	3.00	3.00
Total	5.40	6.40	7.00	7.00	4.00	5.00	4.50	4.50
Affirmative Action								
A & P	2.00	2.00	1.00	1.00	1.00	1.00	.50	.50
Civil Service	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	3.00	3.00	2.00	2.00	2.00	2.00	1.50	1.50
Grand Total - President's Area								
A & P	4.00	4.00	4.00	4.00	3.00	4.00	2.00	2.00
Civil Service	4.40	5.40	5.00	5.00	3.00	3.00	4.00	4.00
Total	8.40	9.40	9.00	9.00	6.00	7.00	6.00	6.00
Academic Affairs								
Provost's Office								
A & P	4.00	4.00	4.00	4.00	5.00	6.00	5.00	5.50
Civil Service	4.00	4.00	5.00	4.00	4.00	3.00	4.50	4.50
Total	8.00	8.00	9.00	8.00	9.00	9.00	9.50	10.00
Graduate College								
A & P	4.00	3.50	1.00	1.00	2.00	2.00	3.00	3.50
Civil Service	3.00	3.00	3.00	3.00	2.00	1.50	4.50	4.50
Total	7.00	6.50	4.00	4.00	4.00	3.50	7.50	8.00

Unit of Analysis. While the type of detailed information provided in Tables 2 and 3 was ultimately provided to the vice presidents and unit managers as backup, it was never intended to be used as a basis for evaluating the relative efficiency of nonacademic units. As noted in the previous subsection, a great deal of time and effort was expended in making the units as comparable as possible. However, in spite of these efforts, it was recognized that subtle nuances exist and that not all of the functions performed by similar departments are the same across institutions. For example, while the Budget Office at Northeastern is responsible for the expenditure oversight and position control functions, these functions are performed by the Accounting Office at another institution. While in theory it would have been possible to analyze the portion of time each position spent on these functions and reassign the percentage of the positions to the Budget Office, in practice the costs involved in developing such detailed information to achieve comparability greatly outweigh the benefits to be derived from such practices. For this reason, the advice of Dunn (1987) and others was heeded and the highest useful level of aggregation of data possible was used for the unit of analysis.

In order to determine what the appropriate unit of analysis might be, the primary functions of each unit were analyzed and units grouped together based on similarity of functions. Only a handful of units were grouped into functional areas based on this

analysis. Logical groupings developed included physical plant operations, library and media services, business services, budget, planning and institutional research, and career and personal counseling. Comparative data were provided for these functions. With these exceptions, the vice presidential level was determined to be the most appropriate unit of analysis for the evaluation of the relative efficiency of nonacademic units.

Level of Analysis. Based on the data already generated, the simplest means of determining the relative efficiency of nonacademic units would be to compute a unit cost per staff for each vice presidential area by dividing total budgeted expenditures by total staffing levels. However, this methodology was not used to determine relative efficiency for several reasons. First, the unit costs factor makes no allowances for differences in the cost of living between the Chicago metropolitan area and downstate Illinois. Since salaries for support positions, in particular, are sensitive to market conditions, the use of a unit cost factor to determine the relative efficiency of nonacademic units may not produce comparable results. Secondly, the unit cost factor may also be skewed by the extent to which differences in the length of employee service affects total salaries.

Therefore, a different measure was sought, one which would be less sensitive to price and other extraneous factors. Two measures were ultimately chosen: fall headcount enrollment and fall full-time equivalent (FTE) enrollment. While most higher education

data is measured on an FTE basis, it was decided to also measure nonacademic units on a headcount basis given that some of the units such as the Admissions and Cashiers Office provide the same level of service to each student regardless of the number of student credit hours taken.

Tables 4 and 5 provide a comparison of budgeted expenditures per headcount/FTE student and of headcount/FTE students per budgeted staff. The use of four separate indicators helps address the concern that the data may not be perfect. As Ewell (1983) has indicated, if multiple indicators are all pointing in the same direction, even when derived from crude data, then something authentic is usually being captured.

It then becomes the responsibility of unit managers and executive management to interpret what is being captured. For example, if one institution consistently shows up as budgeting fewer staff in nonacademic units on either a headcount or student basis, does this mean that their employees are more productive than those at the institutions or that the output expected from the unit is less than at the other institutions? Do technological differences between offices account for any of the variance? To what extent is a low level of expenditure for nonacademic units indicative of the institutional priority assigned to instruction, research and/or public service? In summary, the comparative data will have served their purpose well if they lead to the types of questions raised above. Ideally, the information should enable executive decision-makers to determine whether the level of

Table 4
COMPARISON OF BUDGETED EXPENDITURES PER HEADCOUNT/FTE STUDENT
IN SELECTED NON-ACADEMIC DEPARTMENTS FOR FY1987 AND FY1988

VP Area/Function	1987 Headcount Inst A	1987 Headcount Inst B	1987 Headcount Inst C	1987 Headcount Inst D	1988 Headcount Inst A	1988 Headcount Inst B	1988 Headcount Inst C	1988 Headcount Inst D	1987 FTE Inst A	1987 FTE Inst B	1987 FTE Inst C	1987 FTE Inst D	1988 FTE Inst A	1988 FTE Inst B	1988 FTE Inst C	1988 FTE Inst D
President's Area	34	45	22	18	34	50	22	21	57	72	23	22	57	81	24	25
Administrative Affairs (less Physical Plant)	188	232	164	163	186	263	154	156	316	373	178	195	315	427	167	188
Physical Plant Operations	294	417	335	426	315	465	351	394	493	670	362	510	534	755	382	474
Administrative Affairs (incl. Physical Plant)	483	650	499	589	502	728	505	551	809	1043	540	705	849	1182	549	662
Student Affairs	129	140	119	139	127	171	126	120	216	225	129	166	215	278	137	144
Development & Public Affairs	63	76	34	92	80	79	36	74	105	122	36	110	135	128	39	89
Selected Functions:																
Business Services	90	101	54	81	90	102	56	78	150	163	59	98	152	165	61	94
Budget & Institutional Studies and Planning	30	38	20	20	28	41	20	19	50	60	22	24	47	66	21	23
Library & University Media Services	266	214	230	259	242	233	225	220	445	344	249	310	409	377	245	264
Counseling and Career Planning and Placement	56	69	43	44	56	73	48	48	94	110	47	52	94	119	52	58

Table 5
COMPARISON OF HEADCOUNT/FTE STUDENTS PER BUDGETED STAFF
IN SELECTED NON-ACADEMIC DEPARTMENTS FOR FY1987 AND FY1988

VP Area/Function	1987 Headcount Inst A	Inst B	Inst C	Inst D	1988 Headcount Inst A	Inst B	Inst C	Inst D	1987 FTE Inst A	Inst B	Inst C	Inst D	1988 FTE Inst A	Inst B	Inst C	Inst D
President's Area	1266.4	862.6	1775.5	2012.5	1125.3	785.8	1537.3	2116.3	755.7	537.2	1640.8	1681.7	665.3	484.1	1412.9	1760.5
Administrative Affairs (less Physical Plant)	127.2	103.5	156.8	145.1	131.3	93.1	162.0	154.4	75.9	64.5	144.9	121.3	77.6	57.3	148.9	128.4
Physical Plant Operations	95.6	72.6	91.1	67.6	87.2	68.0	90.4	71.5	57.1	45.2	84.1	56.5	51.6	41.9	83.1	59.5
Administrative Affairs (incl. Physical Plant)	54.6	42.7	57.6	46.1	52.4	39.3	58.0	48.9	32.6	26.6	53.2	38.6	31.0	24.2	53.3	40.7
Student Affairs	212.1	191.7	202.2	192.7	225.5	170.4	200.5	212.5	126.6	119.4	186.9	161.1	133.3	105.0	184.2	176.8
Development & Public Affairs	470.7	388.2	968.5	303.2	373.1	392.9	1092.5	342.5	280.9	241.8	895.0	253.4	220.6	242.1	1004.1	284.9
Selected Functions:																
Business Services	259.5	221.8	355.1	268.9	266.1	228.1	371.1	279.4	154.8	138.1	328.2	224.7	157.3	140.5	341.0	232.4
Budget & Institutional Studies and Planning	967.1	776.3	1331.6	1509.4	1057.8	642.9	1345.1	1587.3	577.1	483.5	1230.6	1261.3	625.4	396.1	1236.3	1320.4
Library & University Media Services	126.0	137.4	156.5	150.5	132.1	125.2	156.7	161.2	75.2	85.6	144.6	125.7	78.1	77.1	144.0	134.1
Counseling and Career Planning and Placement	480.3	369.7	608.7	647.5	525.0	353.6	581.7	612.0	286.6	230.2	562.6	541.0	310.4	217.9	534.6	509.1

resources being provided is optimal relative to overall institutional priorities and expected output.

Information Sources. Given the level of detailed information required to make the nonacademic units as comparable as possible, either budget or expenditure data are needed to conduct the analysis. While budget data were used in the comparisons, similar expenditure data are usually available from internal financial records and financial reports. Many of the comparisons discussed previously were first tested using both budget and expenditure data. The budget data proved to be a more reliable indicator over time than the expenditure data since the expenditure trend data would reflect artificial decreases in expenditures between years whenever positions remained vacant for any length of time. Since the budget data are based on unit plans, unexpected vacancies do not present a problem.

Perhaps the best information source proved to be those unit managers who took the evaluation process seriously and informed the researcher when units or positions were being misclassified between institutions. With the crosswalk of units and positions serving as the foundation of the comparative analysis, the feedback received from unit mangers helped strengthen the results.

Pitfalls to Avoid. Since detailed information is collected and analyzed using this framework, consideration must be given to at what point the cost of collecting

and analyzing the information exceeds the potential benefits to be derived. The size and complexity of the institution would likely dictate the decision. For example, this methodology would be extremely difficult to implement for anything other than selected units at a major research university. For comprehensive universities, while it might be tempting to collect similar information from peer institutions in other states, the cost/benefit of such a venture would need to be weighted carefully.

In a comparative analysis such as this, it is extremely difficult for unit managers not to feel threatened by the process. Their participation in selecting comparable units at other institutions should alleviate some of these concerns. However, it is just as likely that once the data are analyzed, concern will be expressed that the units are not comparable due to the use of different technologies or processes to accomplish the same function. If the comparative data lead unit managers to make statements like this, then it will have served at least part of its purpose by calling attention to the fact that similar functions can be accomplished with different levels of resources and expectations. The use of multiple indicators to verify that each indicator is saying the same thing will also alleviate some of unit managers' fears.

Finally, on a more technical note, when analyzing the financial information, care must be exercised in order to avoid such data traps as whether certain costs are handled on a chargeback basis or are centralized; e.g. administrative computing. While the cost differential may be inconsequential for most items, it could greatly skew the results for

some units. For example, if administrative computing costs are charged to the accounting office in one university but not the other, the cost differential between the two units would be artificially high.

Postscript. While the nonacademic program review process instituted at Northeastern in 1982 was subsequently abandoned, comparative staffing and budget data are still being collected periodically on nonacademic units. In fact, some vice presidents now raise questions about how units' staffing levels compare to their peers. The acceptance of the framework became very clear in 1989 when several vice presidents utilized the information in determining where staffing levels needed to be reduced in order to respond to a sizeable reduction in the state fund budget. This brought home the point made by Patton in which he stated that "utilization occurs when there is an immediate, concrete and observable effect on specific decisions and program activities resulting directly from evaluation findings" (Wergin and Braskamp, 1987:94).

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